# QuickPHOTO INDUSTRIAL

Software for digital photomicrography, image editing and measurements designed for technical applications

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QuickPHOTO INDUSTRIAL program is designed for acquisition of digital images from microscopes equipped with digital cameras, editing, annotations and saving of acquired images and for measurements. This easy-to-learn program is designed for use especially in industry and materials science applications.

QuickPHOTO INDUSTRIAL program is equipped with variety of measuring functions: measuring of lengths, perimeters, diameters, areas, angles, distances of parallel lines, counting of objects, phase analysis and evaluation of hardness and microhardness tests. The program is also equipped with advanced exporting and reporting features.

## Main Features Overview:

- **Image acquisition and live view from a wide range of imaging devices:** microscope digital cameras, DSLR cameras, scanners
- **Measurements in acquired images and in live view\***
- **Metric and imperial units are supported:** µm, mm, in, mils, thou.
- **Measured values are displayed in a well-arranged table with basic statistics:** number of measurements, min and max value, average value, standard deviation. Particular measurements can be annotated.
- **Measured values can be exported to a Microsoft® Excel® file** (optionally also with the measured image) or a text file.
- **Measured values can be instantly exported to an opened Microsoft® Excel® workbook.** This way the measurements can be continuously evaluated by functions or macros predefined in an Excel® sheet.
- **Advanced functions for saving of multiple images at once**
- **Option to automatically save acquired images to a predefined folder right after acquisition**
- **Export of images and tables of measured values to Microsoft® Word reports.** Users can create custom report templates with various layouts and number of images.
- Support for zooming units, magnification changer units and magnification encoders (devices for automatic determination of currently used microscope magnification)
- **Image editing functions, indication and annotation of interesting areas of the image, image descriptions**
- **Advanced printing functions** including interactive preview
- **Automatic time-lapse image capturing** with the options to control computer-controlled illuminators and time-lapse HD video creating
- Option to acquire images using an optional remote trigger
- **Calibrations can be locked with a password protection; the calibrations are protected by a digital signature against unauthorized modifications.**
- Support of work on two-monitor workstations
- **Multilingual, user friendly, adjustable graphical interface in:** English, German, Czech, Slovak, Polish, Spanish, Hungarian, Russian, Ukrainian, Traditional Chinese.
- Option to extend functions with additional modules: Deep Focus, HDR, Image Stitching, RECORD IT, Figure Maker
  
  *Live view measurements are available only for some of the supported imaging devices.

## Measuring Functions in Acquired Images:

- **Insertion of a calibrated scale bar** - options to define type, size and colors; vertical or horizontal position
- **Measuring of line segment and polyline length**
- **Measuring of perimeter and area of ellipse**
- **Measuring of perimeter and area of rectangle/square**
- **Measuring of diameter, radius, perimeter and area of circle:** circle defined by radius, by diameter or by three points
- **Measuring of perimeter and area of polygon**
- **Measuring of angles:** arbitrary angle, angle from the X axis, angle from the Y axis, angle defined by two line segments with a vertex possibly outside of an image
- **Measuring of distance between two parallel lines**
- **Measuring of radius, angle and length of arc**
- **Manual object counting**
- **Advanced phase analysis with an option to define areas of measuring** (ROI)
- **Evaluation of Brinell hardness test** (according to the EN ISO 6506-1:2014 and ASTM E10 standards) and a **Vickers microhardness test** (according to the EN ISO 4516:2002 and ASTM E384 standards)
- **Display of a calibrated overlay grid:** orthogonal or circular
- Options to define measurands and their labeling for individual measuring tools
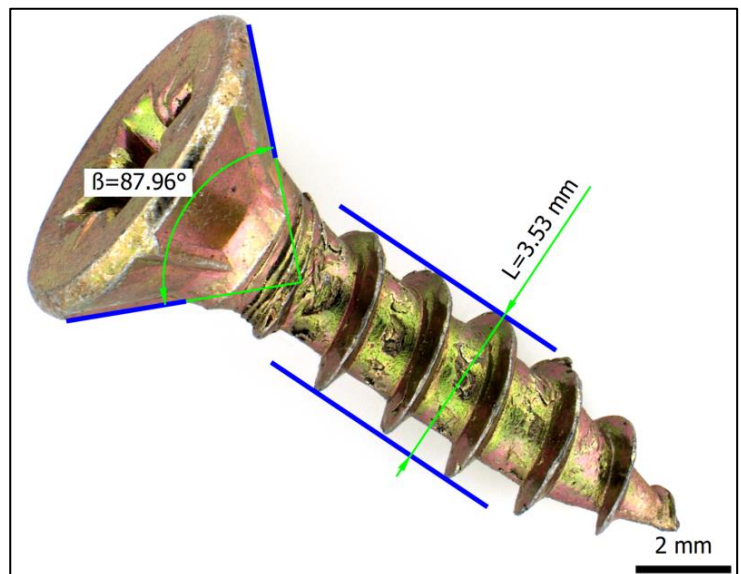
# QuickPHOTO INDUSTRIAL

## Measuring Functions in a Live View*:

- **Quick measurements directly in a live view** without a need to acquire images first to perform measurements
- **Insertion of a calibrated scale bar** - options to define type, size and colors; vertical or horizontal position
- **Measuring of line segment and polyline length**
- **Measuring of perimeter and area of ellipse**
- **Measuring of perimeter and area of rectangle**
- **Measuring of diameter, radius, perimeter and area of circle:** circle defined by radius, by diameter or by three points
- **Measuring of perimeter and area of polygon**
- **Measuring of angles:** arbitrary angle, angle from the X axis, angle from the Y axis, angle defined by two line segments with a vertex possibly outside of an image
- **Measuring of distance between two parallel lines**
- **Measuring of radius, angle and length of arc**
- **Manual object counting**
- **Display of a calibrated overlay grid:** orthogonal or circular
- Options to define measurands and their labeling for individual measuring tools

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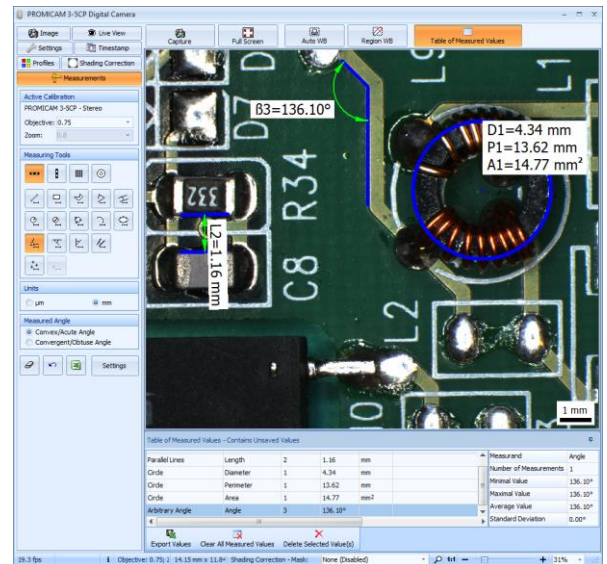


## Evaluation of Hardness and Microhardness Tests

QuickPHOTO INDUSTRIAL program can also be used in conjunction with hardness and microhardness testers. The program includes features for evaluation of Brinell hardness test (according to the EN ISO 6506-1:2014 and ASTM E10 standards) and Vickers microhardness test (according to the EN ISO 4516:2002 and ASTM E384 standards).

## Phase Analysis with an Option to Define Areas of Measuring

The advanced *Phase Analysis* feature is designed especially for material applications like e.g., steel microstructures and composite materials analysis, welding quality checks or die casting. This feature enables measuring of percentage amount of a particular phase (color hue or grey level) in an image. Areas of measuring (ROI) can be defined. Up to four phases can be measured within an image. It is possible to select various colors of displayed phases, add another color hue or grey level to the current phase, invert the phase, set tolerance and overlays. As a result, the percentage amount of each phase in the image is calculated.
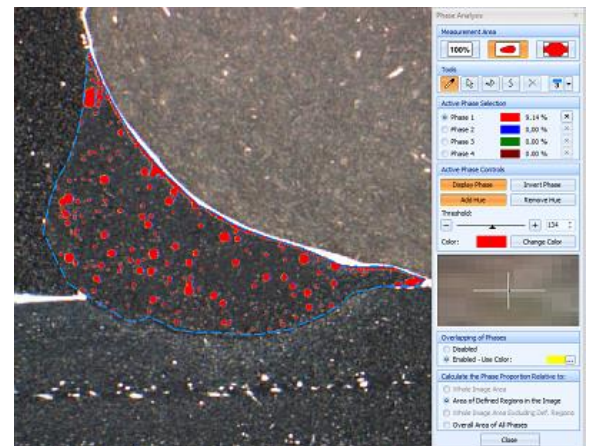


## Image Editing Functions

The images are immediately after acquisition automatically transferred from an imaging device to a computer and prepared for processing in the program's main window. QuickPHOTO INDUSTRIAL program enables work with multiple images at the same time. For comparison two or four images can be displayed side by side. The Thumbnail Browser enables easy switch to another opened image by a single mouse click. The Navigator window facilitates work with magnified images.

The images can be edited using the following functions:

- **Crop** - crop size can be defined in pixels or in length units
- **Rotation** 90° clockwise or counter clockwise
- **Flip and mirror**
- **Resize** - new dimensions can be defined in pixels or in percentages
- **Brightness and contrast adjustment**
- **Color balance adjustment**
- **Histogram adjustment**
- **Filters:** sharpen, blur, negative, grey scale, median
- **White balance:** automatic or based on a reference point
- **Black balance** based on a reference point
- **Indication of interesting areas** by line, arrow, ellipse, rectangle, circle and freehand drawing tools
- **Insertion of text annotations**
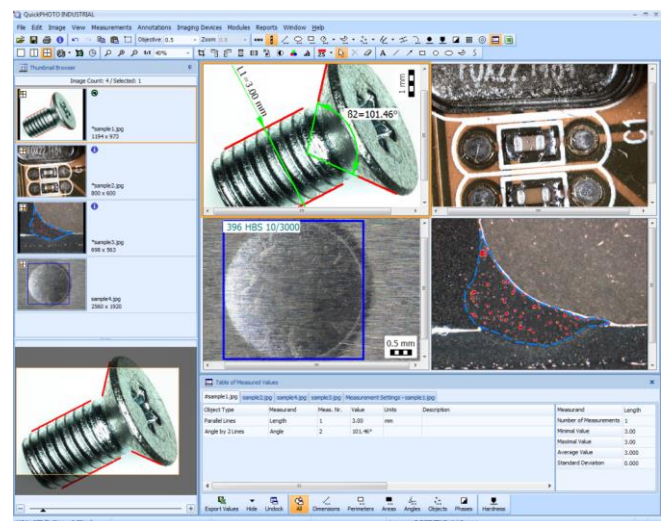
# QuickPHOTO INDUSTRIAL

## The Advantages of Working with Layers

All drawings, measurements and annotations inserted into an image are stored in a separate layer "above the image". That makes possible to modify (change the line's color and thickness, change the size and position), delete, or hide them at any time. The whole layer with inserted objects can also be deleted or merged with the image. The program enables to undo unlimited number of performed operations.

## Microsoft® Word Reports

Images with measured values can be easily exported to reports in Microsoft® Word format. The user can create custom report templates with various layouts and number of images. Templates can be created in Microsoft® Word program using standard formatting functions.

## Control Panels of Imaging Devices

Each of the supported imaging devices can be controlled by its dedicated control panel. The control panel contains a live view from the imaging device and elements for control of its functions and properties.

## Imaging Devices Controlled via TWAIN Interface

Those imaging devices, which do not have their dedicated control panels in QuickPHOTO INDUSTRIAL program, can be controlled via a TWAIN software interface, if it is available from the device manufacturer. Such devices can also be used in conjunction with built-in *Timer* module as well as with *Deep Focus* z-stacking optional extension module.



## Two-Monitor Workstations Support

Two-monitor workstations are supported by QuickPHOTO INDUSTRIAL program. The main program window can be displayed on a primary monitor, while the control panel of an imaging device can be displayed on a secondary monitor.

## Remote Trigger

A remote trigger is an optional accessory which makes image acquisition even more comfortable. The images can be acquired by a press of a trigger button.



## Extension Modules

QuickPHOTO INDUSTRIAL program functionality can be extended by optional additional modules:

- **Deep Focus** – module for creating fully focused images from stacks of partially focused ones (so called focus stacking, z-stacking or Extended Depth of Field imaging). The module use can be motorized and combined with HDR module.
- **HDR** – module for creating of HDR images from bracketed image series (images with different exposures). The module can be combined with Deep Focus and Image Stitching modules.
- **Image Stitching** – module for stitching together multiple images to extend the field of view. The module can be combined with HDR module.
- **RECORD IT** – module for live view real-time video recording.
- **Figure Maker** – module for effortless creating of composite figures with scale bars and labels for publication.
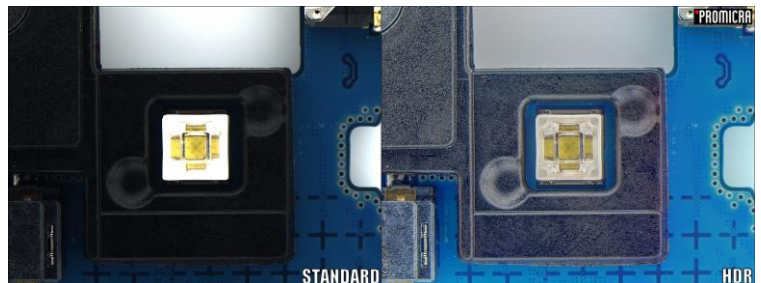


## Minimal System Requirements:

| Processor | RAM | USB Ports | Operating System | Minimal Monitor Resolution |
|---|---|---|---|---|
| Single-core 2.4 GHz or multi-core | 1 GB | 2x USB 2.0/3.0 | Microsoft® Windows® XP(SP3)/Vista/7/8/10 | 1024 x 768 pixels |

## Supported Imaging Devices:

Complete list of currently supported devices can be found on the website: *www.promicra.com*.